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(54) Paper cutting apparatus and image forming apparatus with such a paper cutting apparatus

(57) The present invention concerns a paper sheet cutting apparatus which cuts the front end portion opposite to the fold, where both the leading edge and trailing edge get together by center folding, and an image forming apparatus equipped with the paper sheet cutting apparatus. The sheet cutting apparatus includes a conveying device for conveying a booklet; a stopping device for stopping the booklet at a predetermined position; a cutting device for cutting the front end portion of the booklet; and a controlling section to control each of the conveying device, the stopping device and the cutting device. The controlling section controls the stopping device so as to variably determine a stopping position of the booklet stopped by the stopping device, based on a number of sheets included in the booklet conveyed to the cutting device by the conveying device.

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EUROPEAN SEARCH REPORT

Application Number
EP 01 11 5098

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 5 461 469 A (FARRELL MICHAEL E ET AL) 24 October 1995 (1995-10-24) * column 9, line 50 - line 55 *	1	B26D5/00
X	* column 10, line 1 - line 14 * * column 15, line 50 - line 60 *	5,9,10	
A	US 5 159 395 A (FARRELL MICHAEL E ET AL) 27 October 1992 (1992-10-27)		
A	US 5 467 677 A (KINSON JR ROBERT D) 21 November 1995 (1995-11-21)		
A	EP 0 768 262 A (BOURG C P SA) 16 April 1997 (1997-04-16)		

TECHNICAL FIELDS SEARCHED (Int.Cl.7)
B26D

~~The present search report has been drawn up for all claims~~

Place of search	Date of completion of the search	Examiner
The Hague	14 August 2003	Vaglienti, G.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : *earlier patent document, but published on, or after the filing date*
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1,5,9,10(claim 10 only when depending from claims 1,5 or 9)

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 01 11 5098

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1,5,9,10 (claim 10 only when depending from claims 1, 5 or 9)

sheet cutting apparatus comprising a controlling section arranged to deactivate all the driving sources when the cutter driving source is activated

1.1. claims: 1,9,10 (claim 10 only when depending from claims 1, 5 or 9)

sheet cutting apparatus comprising a controlling section arranged to deactivate all the driving sources when the cutter driving source is activated

1.2. claims: 5, 10 (claim 10 only when depending from claim 5)

sheet cutting apparatus comprising a controlling section arranged to receive an input for the selective execution of a trimming operation

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2. claims: 2,10 (claim 10 only when depending from claim 2)

sheet cutting apparatus comprising a controlling section arranged to control a stopping device based on a number of sheets conveyed to the cutting device

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3. claims: 3, 4, 10 (claim 10 only when depending from claim 3)

sheet cutting apparatus comprising a controlling section arranged to skip trim-cutting for a booklet having a number of sheets less than a predetermined number

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4. claims: 6,10 (claim 10 only when depending from claim 6)

sheet cutting apparatus comprising a controlling section arranged to skip trim-cutting when the execution of an image forming operation is cancelled in mid-course

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5. claims: 7,10 (claim 10 only when depending from claim 7)

sheet cutting apparatus comprising a controlling section arranged to keep a stopping device driving source in a magnetized state

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6. claims: 8, 10 (claim 10 only when depending from claim 8)

European Patent Office

LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 01 11 5098

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

sheet cutting apparatus comprising a controlling section arranged to simultaneously convey booklets to and from a trimming device

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Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 01 11 5098

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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14-08-2003

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		EP 0768262 A1	16-04-1997

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82